CHBE 411: Thermodynamics I
Fall 2019

I. General Course Information

Course Description: CHBE 411 focuses on classical thermodynamics and its relevance to chemical engineering processes and single-component fluids. The course will cover the thermodynamic analysis of pure fluids, heat engines, refrigeration loops, and chemical engineering flow processes.

Student Learning Outcomes: An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.

Meeting Time: Monday, Wednesday, and Friday from 9:00 AM-9:50 AM in DCH 1064.

II. Teaching Staff

Instructor: Prof. Thomas Senftle. Office located in Space Science 219. Phone: x 4714. Email: tsenftle@rice.edu. Prof. Senftle will hold office hours after class and on Mondays from 5-6 PM in Abercrombie B237.

Teaching Assistants: Chun-Yen Liu (cl89@rice.edu), Peng Wang (pw19@rice.edu) and Yuhang Ma (ym21@rice.edu).

TAs will hold office hours on Tuesdays at 4-5 PM in Abercrombie B237.

Please contact the TAs or Prof. Senftle if additional office hours are needed.

III. Textbook and Resources

Required Textbook: Smith, J. M.; Van Ness, H. C.; Abbott, M. M. Introduction to Chemical Engineering Thermodynamics; 8th ed.; McGraw-Hill: Boston, 2017

Suggested Additional Reading: Atkins, P. The Laws of Thermodynamics: A Very Short Introduction; Oxford University Press: Oxford, 2010

IV. Course Website

Course content will be posted on Canvas (https://canvas.rice.edu/courses/22968). This site will be used to make announcements and post handouts, homework assignments, lecture notes, and grades. All students registered for the course should automatically have access to this site. Students that do not have access to the site should contact Prof. Senftle for access.

V. Grading

Grading will be determined by a combination of homework (30%), two midterm examinations (30% total), a project (15% total), and a final examination (25%). Scheduled dates for exams are provided below.

Homework will normally be due by 4:00 PM on Wednesdays. Homework can be handed in during class, in the Abercrombie homework drop-boxes, or online through Canvas. Late homework will be penalized

50% for each day it is late effective at the 4:00 PM deadline. After 2 days late homework will no longer be accepted. Extensions on homework assignments will be given only in limited circumstances (e.g., work-related travel or other work-related responsibilities). Requests for an extension should be made one week in advance of the due date.

A grade scale will be used to determine your final letter grade. Note that the following scale may be revised before the end of the semester:

		B+	87	C+	77		
A	93	B	83	C	70	D	60
A-	90	B-	80	C-	67		

The table shows the minimum score you must obtain to get the corresponding grade. For example, if you finish with 86%, you will receive a B.

Requests for re-grades on exams or homework must be submitted in writing to Prof. Senftle within one week of the date on which the graded assignment is returned to the class.

VI. Important Dates

Exams will be held at the times and days shown below. These are subject to change, and changes will be announced in class and through Canvas.

Wednesday October 2: Midterm Exam #1, 7-9 PM. Location TBD.
Friday November 15: Midterm Exam #2, 7-9 PM. Location TBD.

Friday December 6: Final Project Due by 4pm.

The final exam is scheduled by the Office of the Registrar.

VII. Honor Code Policy

Homework in this course is a valuable tool for helping you learn and retain the information taught in the course. You are encouraged to work together on the homework, but copying is not allowed. Each student will be responsible for turning in a copy of his or her own work. Any suspicion of honor code violations on homework, exams, or the final project will be reported to the Rice Honor Council. Information about the Rice Honor System can be found at http://honor.rice.edu/

VIII. Accommodations

Any student with a documented disability seeking academic adjustments or accommodations is requested to speak with me during the first two weeks of class. Students with disabilities are also encouraged to contact disability support services (https://dss.rice.edu/) in the Allen Center, Room 111.